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SELECTED VARIABLES ASSOCIATED WITH THE WRITING ABILITY OF
BEGINNING TEACHER EDUCATION STUDENTS

Iowa State University

Ph.D. 1984

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Selected variables associated with
the writing ability of beginning
teacher education students

by

Douglas Allan LaPlante

A Dissertation Submitted to the
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CHAPTER I

INTRODUCTION

The topic of teacher competence has been the subject of considerable debate in recent years. Education journals have devoted entire issues to the discussion concerning the abilities of our nation's teachers. Popular magazines such as Time ("Help! Teacher Can't," 1980) and Esquire (Leonard, 1984) have discussed the alleged decline in the competence of our teachers and students. National reports including A Nation at Risk (National Commission on Excellence in Education, 1983), Academic Preparation for College (1983), and Action for Excellence (Task Force on Education for Economic Growth, 1983) have been published that call for major reforms in elementary and secondary education as well as in teacher education programs. State legislatures are debating the merits of requiring competency tests for preservice and inservice teachers. Harold Howe (1984) summarized the dilemma:

It is doubtful that American education has ever before received such a concentration of criticism and free advice as it has in 1983. What is even more unusual is that these outpourings are not just from academics worried about standards in the schools. They come from business and political leaders, from university presidents, from parents and students, and occasionally from educators themselves. The broad message is that the schools can and should be improved, particularly with

regard to their academic functions. The recommendations are legion and sometimes conflicting; no one can count their costs. Further there is a frustrating sense among educational leaders about who should do what and how to start.
(p. 3)

Much of the criticism concerning teachers is focused on their perceived deficiencies in basic skills areas. A prime example described by Benderson (1982) involved the Dallas, Texas Independent School District. School officials there administered the Wessman Personnel Classification Test of Basic Skills to 535 first year teachers and to a volunteer group of juniors and seniors from a private high school in the area. To the dismay of the school district officials, the students, as a group, scored higher than the teachers, and more than half of the first year teachers failed to achieve the minimum score needed to pass the test. The June 16, 1980 Time magazine cover story entitled "Help! Teacher Can't Teach!" also typified the extent of the problem of teacher competence. An Oregon kindergarten teacher who had been given As and Bs at Portland State University was determined by school district officials to be functionally illiterate, and school board members in Wales, Wisconsin were outraged when teachers' curriculum proposals were filled with spelling errors and poor grammar.

If these were isolated problems, one could argue that the controversy over teacher competence was an overreaction to the problem. Research results reported by Weaver (1981,

p. 32), however, have indicated that the mean SAT verbal score for prospective education majors nationwide has dropped from 418 to 389 from 1972-73 to 1979-80 while the mean SAT math score fell from 449 to 418 during the same period. Although the scores are consistent with the overall drop in SAT scores during the decade, in both categories education majors were the lowest among 12 groups of college majors examined. A similar pattern was described by Benderson (1982) when he stated "that in February 1982 the New Jersey Department of Higher Education reported that students intending to major in education had scored lower than any other group on the state's collegiate basic skills tests" (p. 3). In Louisiana, only 53 percent of the teacher candidates taking the National Teachers Examination passed in 1978, and 68 percent in 1979 ("Help! Teacher Can't," 1980).

In response to such allegations, many of the 1,300 higher education institutions with teacher education programs have begun to make substantial improvements in "both the quality of their ... curricula and the caliber of students they enroll" (Watkins, 1983, p. 1). Watkins also noted a 1982 survey carried out by the National Center for Education Statistics indicating that from 1977 to 1982 85 percent of the schools of education had taken some steps to improve their teacher education curricula and 75 percent had raised their entrance requirements. Changes included increasing the

number of field experiences, making entrance requirements more rigorous, moving from four-year to five-year programs, granting only provisional certification for beginning teachers, and requiring teacher candidates to demonstrate competence in subject matter and basic skills on standardized or custom-designed competency examinations.

The use of such examinations has become increasingly popular throughout the country. Smith (1984) provided a rationale for the growth in testing:

The public is insisting on excellence in American education. This insistence has been underscored in over 100 regional and national reports. Responding to the increasing pressure of the public's mandate for excellence, state legislatures and state boards of education have been forced to respond with rapidly implemented, simplistic solutions to complex problems. Whereas little action has been directed toward curricular reform, increased teacher salaries, sufficient funding for education, the working conditions of teachers, or improved training models, great attention has been given to reforming the standards for selecting and certifying teachers. Hence, the single, most visible national response has been the adoption of state mandated competency tests for the certification of teachers. (p. 6)

Indeed, there has been a tremendous expansion in the number of states using competency tests of one form or another. Sandefur (1982) stated that "the rapid growth of teacher competency assessment programs has been little short of phenomenal. Although North Carolina has required the National Teachers Examination for certification since 1964, the practice of testing teachers was otherwise unknown until

around 1977" (p. 8). At the current time, there are 36 states that are either testing applicants for admission to teacher education or prior to certification. Sandefur (cited in Smith, 1984) elaborated:

Presently, 21 states test or plan to test applicants for admission to teacher education programs. ...twenty-eight states test or plan to test prior to certification. Tests for certification usually include one or more of basic skills, professional skills, and academic skills.

Teachers' competence in basic skills is of major concern in most states. Twenty-seven of the 36 states involved specify some sort of testing of basic skills, either for admissions, certification, or both. Testing in professional skills has been specified in 21 states and testing in academic proficiency has been specified in 20 states.

The states are almost evenly divided in their use of standardized versus customized tests. Seventeen states had specified nationally standardized tests. Most frequently mentioned are the National Teachers Examination (NTE), the American College Test (ACT), the Scholastic Aptitude Test (SAT), and the California Achievement Test (CAT). Sixteen states have or are attempting to develop their own state tests. (p. 6)

As the number of states using teacher competency tests has increased, so has the controversy surrounding the use of such tests. Two major political organizations representing teachers have taken public stances regarding the issue. The National Education Association ("Help! Teacher Can't," 1980) is on record as being opposed to competency testing for practicing teachers, arguing that the complex skills necessary for effective teaching can't be measured by written, state mandated tests. The NEA would rather have the responsibility for insuring teacher competence remain within

the realm of the professional teacher organizations. The American Federation of Teachers supports the use of competence examinations as a criterion for certification and hiring of new teachers. AFT President Albert Shanker clarified the organization's position:

Opponents of teacher testing note that a good grade on a math or English or social studies exam won't tell you if a person will make a good teacher, that exams cannot measure the complex set of abilities that go into teaching. True enough. But you can find out if an aspiring English teacher can spell or if a math teacher can do math. If they can't, there's no point looking at other qualities. (Benderson, 1982, p. 7)

The American Association of Colleges for Teacher Education (1983), a professional organization dedicated to improving teacher education, also has opposed state mandated teacher competency testing and believes "the responsibility for ensuring that beginning teachers are competent to teach in the nation's classrooms should be that of teacher education institutions" (p.1). The AACTE does, however, support the use of competency examinations as a part of a multiple assessment system for measuring student progress.

In addition to the conflicting positions of the NEA, AFT, and AACTE regarding the use of teacher competency tests, research by Soar, Medley, & Coker (1983) and Quirk, Witten, & Weinberg (1973) indicates that the predictive validity of the National Teachers Examination (NTE), one of the more popular tests, is somewhat questionable. Although the NTE Weighted

Common Examinations Total scores are moderately correlated with success as an undergraduate as measured by course grades, low correlations were found between the NTE scores and the ratings of on-the-job performance by principals and supervisors. Even the publisher of the test, the Educational Testing Service (ETS), has banned the use of the NTE to measure the competence of practicing teachers. ETS officials ("Testing Service Limits," 1983) have stated that "the proper use of its teacher exam is as a hiring tool to evaluate a teacher candidate's academic knowledge and skills - but not to evaluate the performance of existing teachers" (p. 6T).

In regard to developing basic skills competencies of teachers, Hodges and Nash (1982) believe that improving teacher competency tests may not be enough:

Our student teachers are coming to teacher training institutions from the same public school systems which are under attack. If student competency is as poor as critics claim, teacher educators have great cause for concern. Teacher education institutions and organizations need to investigate the proficiencies of teacher education applicants in writing and reading. Such research will either verify the criticism and give direction to revising standards for admission and upgrading program, or it will lay to rest unjustified blame of teachers. (p. 68)

The Problem

In light of this challenge, this study focused specifically on the writing skills of beginning teacher education students at Iowa State University. Writing samples of students enrolled in their first education course

(Education 204 - Foundations of American Education) were collected and evaluated by the course instructors and then by English evaluators experienced in grading procedures used in the University's required English composition courses (English 104 and English 105). Data regarding student personal and academic characteristics were also collected. The purposes of the study are threefold. First, the study will determine the degree to which the students' writing ability, as measured by scores awarded by the English evaluators, correlates with selected variables regarding the students' personal and academic characteristics. Secondly, the study will determine if it is possible to predict student writing ability from these variables. If these relationships do exist, such information may be useful to education faculty and academic advisors when making decisions regarding individual students' acceptance into and continuance in the teacher education program. A third purpose of the study will be concerned with the evaluation of the students' writing ability. The study will determine if the Education 204 instructors and the English evaluators differ significantly in their evaluation of the Education 204 student essays.

Hypotheses

Specifically, this study will address the following hypotheses:

1. H01 There are no significant relationships among

the following selected variables:

Age

Sex

Marital Status

High School Rank

High School Size

Iowa State University Grade Point Average

ACT Composite Score

ACT English Subscore

English 104 Grade

English 105 Grade

Education 204 Grade

English Evaluator Writing Score

Education 204 Instructor Writing Score

2. H02 There is no significant difference between the Education 204 instructor writing scores and the English evaluator writing scores.
3. H03 There is no contribution to the prediction of a student's English evaluator writing score by combinations of selected variables including:
 - Time of Enrollment in Education 204
 - Sex
 - Age
 - High School Rank
 - High School Size

Iowa State University Grade Point Average

English 104 Grade

English 105 Grade

ACT Composite Score

ACT English Subscore

The descriptive and inferential information concerning beginning teacher education students that results from this study may be useful to teacher educators as they address the need for reform in teacher education institutions. Teacher educators have a professional responsibility to assume leadership for such reform rather than allowing state legislatures and state departments of education to determine the future direction of teacher education programs. Studies such as this are a crucial first step in achieving such leadership. By learning more about the characteristics of teacher education students, informed decisions concerning curricular reforms can be made.

Limitations of the Study

Students involved in this study were all students at Iowa State University. Their writing samples and academic characteristics may not have been representative of students at other institutions.

Although the English evaluators were experienced in grading procedures used in the University's required English composition courses, no other methods of determining

inter-rater reliability among the evaluators were utilized in this study.

CHAPTER II

REVIEW OF RELATED LITERATURE

Before an analysis of teacher competency assessment can take place, it is necessary to review the research that has been conducted regarding the issue of teacher competence itself. This review of related literature begins with a definition of the term "teacher competence", followed by a historical review of attempts to measure teacher competence. Reasons for the recent resurgence of interest in assessing teacher competence will then be examined and an overview of various state's roles in improving teacher competence will be provided. Finally, one specific area of teacher competence, writing competency, will be examined.

Definition

The definition of the term "teacher competence" to be used in this study is provided by Borich (1977). He stated that "teacher competencies identify a single level of proficiency, or range of proficiencies, determined through theoretical or empirical processes, at which a teacher should perform" (p. 5). He further divided the concept into three forms:

1. Knowledge competencies specifying cognitive understandings the teacher is expected to demonstrate.

2. Performance competencies specifying teaching processes the teacher is expected to demonstrate.
3. Consequence competencies specifying pupil behaviors that are viewed as evidence of teaching effectiveness. (p. 6)

This definition is useful because it separates the concept of teacher competence into specific, measureable terms.

Knowledge competencies such as a teacher's knowledge of subject matter and consequence competencies such as student achievement may be measured with pencil and paper tests. Performance competencies, however, may need to be measured with the use of videotapes and rating scales. As Borich pointed out, "knowledge, performance, and consequence competencies are best viewed as a sequence of interrelated behaviors that work in partnership to build a comprehensive array of both teacher and pupil outcomes in the classroom" (p. 7).

Historical Perspectives

Although Sandefur (1982) has contended that the recent fervor concerning competency tests for teachers began about 1977, attempts at teacher evaluation can be traced back to the early 1900s. "Formal evaluation of teaching, as practiced today," stated Davis (1964) "appears to have had its origin, in part, during the late nineteenth century school practice as well as in the efficiency movement of the early twentieth century" (p. 43). As Frederick Taylor's

scientific management theories gained strength in industry, Davis reported that the importance of efficiency also spilled over into education. Examples included the "Provisional Plan for the Measure of Merit of Teachers" developed by E.C. Elliot in 1910 and the 1912 report delivered to the National Council of Education by its Committee on Standards on Tests for Measuring the Efficiency of Schools or School Systems.

Medley (1979, pp. 12-16) reviewed the history of research into teacher effectiveness and divided the research studies into three distinct time periods. Research conducted during the first period, from the 1900s through the 1940s, focused on the personality traits of teachers. One example would be the 1929 Commonwealth Teacher Training Study where teachers were reviewed by expert "judges" - individuals involved in teacher training programs. The top six characteristics of effective teaching were identified as good judgement, self-control, considerateness, enthusiasm, magnetism, and adaptability. A second example of research conducted during this time period was Somers' (1923, p. 32) study of teachers' perceptions of the effective teacher. Four major qualities of effective teachers were identified including personal, teaching, managing, and community force dimensions. These qualities were further divided into the following 12 areas:

1. Ability to meet people

2. Self control and poise
3. Promptness and dependability
4. Ready command of language
5. Cheerfulness
6. Sense of humor
7. Good judgement
8. Initiative and originality
9. Accuracy and honesty
10. Tact and adaptability
11. Fairness
12. Force

Medley emphasized that all of the studies during this time period were concerned with such "perceived" characteristics, and no evidence was cited to prove that teachers possessing these desirable personal qualities were any more effective than any other teachers.

The second major period of research studies reviewed by Medley occurred during the 1950s and 1960s when product-process types of research became more frequent. The focus of study during this time period moved away from the analysis of personality variables and centered on teaching "styles" or classroom "climate". An example of this type of research would be the work of Flanders (1962) and his technique of Classroom Interaction Analysis. Flanders was concerned with verbal behaviors of teachers and how those

verbal behaviors increased or decreased students' freedom of action. Rating scales were used to record types of teacher talk, student talk, and periods of silence in classrooms. Flanders found that students achievement levels were higher with teachers using indirect verbal skills (using praise, asking questions, accepting student ideas) rather than direct verbal skills (lecturing, criticizing).

Another major study during this time period was the Teacher Characteristics Study conducted by Ryans (1960). Ryans and teams of trained observers conducted a six-year nationwide study from 1948 to 1954 involving 6000 elementary and secondary teachers in 1700 public schools. He identified three major clusters of observable teacher behaviors related to effective teaching:

1. Pattern X: Warm, kindly, understanding, friendly behaviors versus aloof, egocentric, restricted behaviors.
2. Pattern Y: Responsible, businesslike, systematic behaviors versus evading, unplanned, shipshod behaviors.
3. Pattern Z: Stimulating, imaginative, enthusiastic behaviors versus dull, routine, unimaginative behaviors. (p. 77)

Both studies reflected an emphasis on determining the type of classroom "climate or atmosphere" teachers could create for effective learning to occur.

The last historical period in Medley's review occurred from the 1970s to the present. The focus in this period has

been on finding a variety of measurable competencies that distinguish effective teachers from less effective teachers. The following studies reflect the diversity of opinion in the academic community as to actually what skills a "competent teacher" needs to have.

A major review of research studies concerning teacher effectiveness published through 1971 was conducted by Rosenshine and Furst (1971, pp. 42-55). Eleven teacher variables that have shown promising relationships to pupil gains in cognitive achievement were identified. The five variables with the strongest correlational support were:

1. Clarity of presentation
2. Variety of presentation
3. Enthusiasm
4. Task-oriented behavior
5. Student opportunity to learn criterion material

The last six variables with somewhat less correlational support were:

6. Use of student ideas
7. Amount of negative criticism
8. Use of structuring comments
9. Cognitive level of questions asked
10. Use of probing verbal responses
11. Level of difficulty of instruction

Researchers have also surveyed college faculty and

students to determine their perceptions of the skills needed to be an effective teacher. A research project conducted at the University of Toledo by Perry and described by Miller (1972, p. 25) involved 13,643 responses from faculty, students, and alumni that were categorized into 60 effective teaching behaviors. These behaviors were then rated as to their importance by 1793 faculty, students, and alumni, and the following 12 effective teacher traits emerged:

1. Being well-prepared for class
2. Sincere interest in subject being taught
3. Comprehensive knowledge of subject matter
4. Insuring student achievement of objectives
5. Measure student understanding of material
6. Fair and reasonable evaluation procedures
7. Communicating effectively
8. Encouraging independent thought by students
9. Good organizational skills
10. Motivating students
11. Treating students with respect
12. Acknowledging all student questions

Factor analysis was utilized by Hildebrand (1973, pp. 44-50) to yield five clusters of characteristics of effective college teachers in a study involving 338 students and 119 faculty members at the University of California - Davis. The characteristics were: command of subject matter,

organization and clarity, instructor/group interaction, instructor/individual student interaction, and dynamism/enthusiasm. Five characteristics associated with superior college teaching were described by Feldman (1976, p. 263). They included: stimulation of student interest, clarity of presentation, knowledge of subject matter, organization skills, and enthusiasm.

College students were surveyed by Goldsmid (1977, p. 14) to determine their perceptions of an effective teacher. The effective teacher possessed the following attributes: thorough knowledge of subject matter, well-planned and organized lectures, enthusiastic and energetic, and student-oriented and friendly. Similar perceptions of college students were reported by O'Tuel (1979, p. 6). Effective teachers were enthusiastic, well-organized, able to relate knowledge of subject matter to solutions of practical problems, and communicated ideas clearly.

Five major types of effective teacher behavior were identified by Manatt, Palmer, and Hidlebaugh (1976, pp. 22-23) after analyzing 1277 appraisals of 69 elementary and secondary teachers. The appraisers included the teachers' students, peers, administrators, and the teachers themselves. The effective behaviors were: productive teaching techniques (variety, use of probing questions), positive interpersonal relations (respectful, fair, tolerant), organized/structured

classroom management, intellectual stimulation (exciting, enthusiastic), and desirable out-of-class behaviors (good team worker, utilizes community resources). These effective teacher characteristics are now being included in a School Improvement Model Project (SIM), sponsored by the Northwest Area Foundation of St. Paul, Minnesota, involving four school districts in Minnesota and Iowa. As a part of the four-year project begun in 1980, teachers receive training to improve their effectiveness in the above mentioned areas.

In 1979, the Research Institute for Studies in Education (RISE) at Iowa State University began a comprehensive study of the ISU teacher education program. In association with RISE, James (1982, p. 42,45) analyzed responses from 698 members of the public in Iowa, 562 Iowa teachers, and 294 Iowa State University teacher education students. Six major characteristics that distinguish between effective and less effective teachers were identified: class management skills, content knowledge and intelligence, ability to communicate subject material, personal variables (friendly, open), and interpersonal skills.

Finally, Medley (1982, p. 24) distinguished between five categories of professional teacher competencies. They were: knowledge competencies, information-gathering skills, performance or implementation skills, decision-making skills, and professional attitudes. He acknowledged, however, that

measuring such competencies was more difficult than identifying them.

Current Perspectives

The issue of teacher competence has a complex and varied history. There has, however, been a resurgence of debate concerning this topic in recent years. Elam (1978) has pinpointed the cause of the resurgence:

Costs of public education have nearly doubled during the last 10 years, with a large share of the revenues to meet these costs coming from local taxes. When local residents learn through the media that high school students are being graduated who are functionally illiterate, that national test scores are declining, and that the schools are having problems with discipline, drug use, and vandalism, their predictable reaction is to question the added costs and the way the schools are being administered.

Out of this situation has come a demand for setting minimum requirements for graduation from high school and for holding teachers accountable, to a greater extent, for the educational progress of students. The overall effect of these events and forces has been to lessen the public's respect for the public schools. (p. 1)

This demand for improvement led to the publishing of 14 major national reports between 1982 and 1983 that recommended substantial reforms in our nation's elementary and secondary schools and teacher education institutions (Earley, 1984). One of the most publicized reports, the National Commission on Excellence in Education's A Nation at Risk (1983), detailed numerous reasons for the need for such reform:

1. Some 23 million American adults are functionally illiterate by the simplest of tests of everyday reading, writing, and

comprehension.

2. About 13 percent of all 17-year olds in the United States can be considered functionally illiterate. Functional illiteracy among minority youth may run as high as 40 percent.
3. Average achievement of high school students on most standardized tests is now lower than 26 years ago when Sputnik was launched.
4. The College Board's Scholastic Aptitude Tests (SAT) demonstrate a virtually unbroken decline from 1963 to 1980. Average verbal scores fell over 50 points and average mathematics scores dropped nearly 40 points.
5. College Board achievement tests also reveal consistent declines in recent years in such subjects as physics and English.
6. Both the number and proportion of students demonstrating superior achievement on the SAT's (i.e., those with scores of 650 or higher) have also dramatically declined.
7. Nearly 40 percent (of the 17-year olds) cannot draw inferences from written material; only one-fifth can write a persuasive essay; and only one-third can solve a mathematics problem requiring several steps.
8. There was a steady decline in science achievement scores of U.S. 17-year-olds as measured by national assessments of science in 1969, 1973, and 1977.
9. Average tested achievement of students graduating from college is also lower.
10. Business and military leaders complain that they are required to spend millions of dollars on costly remedial education and training programs in such basic skills as reading, writing, spelling, and computation. (p. 9)

As debate continued about the decline of basic skills abilities of the nation's school age children, similar debate

began to focus on the basic skills abilities of their teachers and teachers-to-be. Data from three studies conducted by the National Center for Education Statistics (1983) indicated that:

In 1980 college aspirants who intended to major in education scored lower on standardized vocabulary, reading, and mathematics achievement tests than other college-bound seniors. The prospective education majors also averaged lower high school grades and fewer courses in science and mathematics than students intending other majors.

Comparable testing . . . suggests that the poorer performance of aspiring education majors is not a new phenomena. Despite a drop in scores of all seniors between 1972 and 1980 on comparable vocabulary, reading, and mathematics exercises, those who intended to major in education scored below other prospective majors in both years. Indications are that the scores of females who intended to major in education experienced the sharpest decline, suggesting a widening gap in performance between females going into education and those pursuing other majors. This finding is particularly disturbing, considering that females will probably comprise most teacher graduates. (pp. 178-179)

Research conducted by Weaver (1981, p. 32) indicated that Scholastic Aptitude Test (SAT) verbal mean scores for college-bound seniors planning to major in education dropped from 418 in 1972-1973 to 389 in 1979-80, and their SAT mathematics mean scores dropped from 449 to 418 during the same period. Although SAT scores declined for students in all subject areas from 1963 to 1980 ("SAT Verbal, Math," 1982), the education students' verbal scores in 1976 were 34 points below average for all college-bound seniors and their mathematics scores were 43 points below average. Weaver

(1981) also pointed out that this trend had not changed through 1980 and that the education-field majors ranked lower in SAT verbal mean scores than any other subject-area group from 1974 to 1980 and lower than any other group in SAT math mean scores from 1978 to 1980.

In regard to American College Tests in English and mathematics, Weaver (1979) reported that the average education major scores at approximately the 40th percentile. He indicated that:

the ACT English and math scores of the college-bound sample indicating an education major have declined significantly since 1970, and at a more rapid rate than the national college-bound population as a whole. Of 19 fields of study reported by ACT for enrolled college freshman in 1976, education majors were tied for seventeenth place on math scores and fourteenth on English scores. (p. 30)

In addition to analyzing SAT and ACT data, Weaver reviewed education majors' performance on the Graduate Record Examination (GRE) and the National Teacher Examination (NTE). Verbal and nonverbal scores of education majors on the GRE have not only declined significantly since the 1970s, but their scores have dropped at a faster rate than the overall GRE scores. On the National Teacher Examination, a competency test presently used in 33 states (Rosner, Note 1), a 20 point decline in scores occurred from 1970 to 1975.

State Responses

In response to the declining test scores and public

outcry for educational reform, a number of states have begun to implement changes in the certification procedures for teachers. Sandefur (1982) has indicated that "although North Carolina has required the National Teachers Examination for certification since 1964, the practice of testing teachers was otherwise unknown until around 1977" (p. 8). Louisiana (Carter, 1981) began the current competency testing movement in 1977 by requiring all candidates for certification to achieve a state-mandated minimum score on the National Teacher Examination. The state of Florida (Smith, 1981) followed in 1980 by requiring that applicants for teacher certification take the Florida Teacher Certification Examination, a written test designed to measure writing ability, effective listening, reading ability, and mathematical and professional skills.

Tennessee also began using the National Teacher Examination in 1980, and according to Hathaway (1980), Georgia developed its own teacher competency test during that same year. In the state of Oklahoma, Kleine and Wisniewski (1981) reported that legislative bill 1706 created numerous provisions for improving teacher education including mandating state-created competency tests for teacher candidates. Iowa Governor Terry Branstad recently vetoed legislation that would have required prospective teachers to pass both a basic skills proficiencies test and a

professional and subject matter proficiencies test prior to certification ("Teacher Testing," 1984). It is expected, however, that the testing plan may return after an Iowa state education task force makes its report later this year. Presently, 36 states test teacher competency, with 21 of the states testing applicants for admission to teacher education programs and 28 of the states testing teaching candidates prior to granting certification (Sandefur, 1982).

Writing Competencies

Many of the state's teacher competency examinations have been concerned with assessing the writing skills of prospective teachers. Horror stories abound concerning teachers' use of poor grammar skills and improper vocabulary. The June 16, 1980 Time magazine cover story entitled "Help! Teacher Can't Teach" contained a portion of a note sent home in Mobile, Alabama, by a teacher with a master's degree. It read: "Scott is dropping in his studies he acts as if he dont care. Scott wont pass in his assignment at all, he a had a poem to learn and he fell tu do it" (p. 59). Hodges and Nash (1982) found that in a sample of 117 prospective teacher education students at Colorado State University:

83 wrote an assigned essay at the 9'th grade level, or below, on the Fry Readability Scale. Twenty-seven students indicated serious spelling deficiencies. Five did not follow instructions for completing the assignment in that they could not, or did not, write in the essay format, but wrote disjointed sentences unconnected by transition words. Hodges also found that 97 of the sample had

never before written an annotated bibliography. Upon completion of such an assignment, 37 failed to follow the printed sample. She also found that of the 117 annotated bibliographies completed, fifty-three had serious spelling or mechanical errors. Only five students indicated that they had prepared a long paper on a topic in their major field of study while at the institution. (pp. 68-69)

A survey of 500 human resources and public affairs executives conducted by the Conference Board, a business-financed research organization, revealed that only 15 percent of the executives described the reading and comprehension abilities of high school graduates they had hired as "good", and more than 50 percent rated the writing skills of the graduates as "poor." One retailing personnel executive was quoted as saying, "their writing skills are practically non-existent" ("High School Graduates," 1984).

Not only are grammatical errors a major problem, but student attitudes about writing add complexity to the issue. Students in a sophomore literature program at the University of Missouri were asked to comment on their attitudes about writing (Hodges & Nash, p. 68). More than three-fourths of them indicated that they felt they were at a disadvantage when taking essay tests. Not only did they feel that they could not write well enough to do well on such tests, but the students confessed that the amount of writing was among the criteria they used when making decisions about what course and instructors to select. Responses to a survey of Iowa

State University students conducted by university administrators also indicated that 22 percent of the 1983-84 freshmen students reported they needed help to improve their writing skills (Roos, 1984, p. 1A).

As numerous states moved to insure the writing competence of their future teachers by implementing basic skills competency examinations, critics warned of possible dangers to such an approach. Specific misgivings were outlined by Cooper (1981):

From the required reading lists of the College Entrance Examination Board at the turn of the century to the great variety of tests presently mandated by states and school districts it has been only too easy to document the reactive effect of testing on teaching. If teachers are to be held accountable primarily by the performance of their students on narrow basic skills tests, then instruction will inevitably be narrowed to objectives appropriate to the tests. If writing tests require no writing - and many we have seen do not - then writing instruction will be reduced to arhetorical drill on correct usage. If reading tests test only literal comprehension, then reading instruction will neglect or ignore inferential and critical reading skills. (p. 12)

What skills must an individual develop to be considered "competent in writing?" A definition of writing competency provided by Odell (1981) highlighted the major skills: "the ability (1) to discover what one wishes to say and (2) to choose the appropriate language, sentence structure, organization, and information to achieve a desired purpose with a given audience" (p. 103). More specifically, the College Entrance Examination Board ("What You'd Need," 1984)

has outlined the following six writing competencies students must possess in order to do effective college work:

1. The ability to conceive ideas about a topic for the purpose of writing.
2. The ability to organize, select, and relate ideas and to outline and develop them in coherent paragraphs.
3. The ability to write Standard English sentences with correct: sentence structure; verb forms; punctuation, capitalization, possessives, plural forms and other matters of mechanics; word choice and spelling.
4. The ability to vary one's writing style, including vocabulary and sentence structure, for different readers and purposes.
5. The ability to improve one's own writing by restructuring, correcting errors, and rewriting.
6. The ability to gather information from primary and secondary sources; to write a report using this research; to quote, paraphrase, and summarize accurately; and to cite sources properly. (p. 3C)

The Educational Testing Service (1983), publisher of the National Teacher Examination, has also identified 12 competencies that an effective writer should demonstrate. The competencies include the ability to:

1. provide and sustain a focus or thesis.
2. attain in different papers the varied aims or purposes (e.g., explanatory, persuasive, expressive) of discourse.
3. decide which of these aims or purposes is appropriate in a given writing situation.

4. select and sustain an appropriate persona or voice.
5. produce and develop adequate and appropriate material to accomplish the purpose for writing, identifying and supporting, as appropriate, important assumptions.
6. choose and use a mode of organization consistently.
7. preserve coherence in an extended piece of writing.
8. choose an appropriate mode of organization (chronological, enumerative, etc.)
9. construct sentences in standard English, adjusting choice of sentence structure and word choice to suit purposes and aims.
10. use sentences and vocabulary which are appropriate to the purpose of the writing.
11. use words and sentences which are appropriate for the intended readers.
12. construct sentences in standard written English and identify sentences that do not observe the conventions of standard written English, such as grammar, usage, and punctuation. (p. 3)

Two major methods for measuring the degree to which writing competencies have been mastered have utilized multiple-choice, objective tests (ACT English subtest, Sequential Test of Educational Progress: Writing) or ratings of actual samples of student writing. The use of objective tests to measure writing ability, however, has received considerable criticism. Objective tests, according to Odell (1981):

seem attractive partly because they can be scored quickly and reliably and partly because they have good predictive validity. That is, some makers of standardized tests have been able to show that if students make a relatively high score on a standardized test, they are likely to make a relatively high grade in a subsequent writing course. One of the chief difficulties with standardized tests is . . . that skills needed to do well on these tests are not the same as skills needed to do well in writing. For example, multiple-choice tests frequently ask students to choose from among several alternatives that someone else has identified. But for writers, the primary problem is not one of choosing from among such a list of alternatives but of generating their own alternatives from which they will choose . . . Furthermore, once writers have created alternatives, they must decide which alternative is most appropriate for their intended audience and purpose. Standardized tests - at least those I have examined - do not ask students to make such decisions. (pp. 107-108)

Odell's arguments are supported by the research findings of Braddock, Lloyd-Jones, and Schoer (1967). Their research indicated that composition teachers believe objective tests designed to assess writing competency "do not require the examinee to . . . formulate and organize his own ideas into paragraphs and sentences; such tests are therefore, say these critics, inevitably not valid measuring instruments" (p. 55).

The use of rating scales or holistic methods to evaluate samples of student writing have also received criticism. Inter-rater reliability problems (Braddock, Lloyd-Jones, and Schoer, 1967), time and economic costs of hand scoring the samples (Fowler & Ross, 1982), and questions concerning the type of writing to be assigned (Odell, 1981) have caused

problems when writing samples were used as the only indicator of writing ability.

As a result of the claims that objective tests of writing ability are reliable but lack validity, standardized tests such as the National Assessment of Educational Progress - Writing (Odell, 1981) and the National Teacher Examination Communication Skills Test (Educational Testing Service, 1983) now require student writing samples as part of the assessment process. For example, the NTE Communication Skills Test is divided into three areas: listening, reading, and writing. The writing test has two separately timed 30-minute sections. The first section consists of 45 five-choice objective questions concerning usage and sentence correction and the second section consists of one essay question involving selected topics. The essay is graded by two readers, and the ratings are summed to produce the essay score.

A third test that has incorporated an assessment of writing competence involving writing samples of students has been developed as part of the College Outcome Measures Project (COMP) by the American College Testing Program (Trank & Steele, 1983). Students taking the test write letters to friends, legislators, and administrators and the writing samples are then numerically rated by trained evaluators. The improved validity of this test is described by Trank and Steele:

Besides a high content validity for the COMP . . . Writing Assessments, ACT had conducted a series of validity studies of the relationship of these assessments to a variety of adult roles outside the classroom. To date, performance on these instruments has been found to be clearly related to supervisor ratings of persons in teaching, nursing, banking, business management, and criminal justice management settings. In an additional study using a variety of measures, these communication skills showed some of the highest relationships with a sociological rating of effectiveness of job functions for Black, Hispanic, and white adults in one metropolitan area. Thus these instruments already were supported by evidence that the skills as measured were important to effective functioning in adult roles. (pp. 228-229)

Not only have researchers improved the instruments used to measure effective writing skills, but attempts have also been made to predict student writing ability based on information related to student academic and personal variables. The ability to predict the level of writing competency would be useful when assigning in-coming college students to the appropriate composition course or remedial program. Teacher education faculty may also use such information to help make more informed decisions regarding student applications for admission to teacher education programs. A study conducted by Fowler and Ross (1982) is an example of the use of multiple regression techniques to identify predictor variables related to writing ability. Using grade in a required composition course as the dependent variable and various independent variables including ACT composite and English scores, high school rank, I. Q. test

scores, and vocabulary and phonetic test scores, the researchers identified four predictor variables. These included the English subtest of the ACT, the structural analysis subtest of the Stanford Diagnostic Reading Test, the Minnesota Scholastic Aptitude Test, and the inferential reading component of the Stanford Diagnostic Reading test. Total variance explained by the four predictor variables was .37. The researchers stated that:

Although high school rank and ACT Assessment - Composite score each correlated comparatively high with composition grade (HSR, $r = -0.49$; ACT - Composite score, $r = 0.47$), neither measure contributed significantly to the regression model . . . that the English subtest of the ACT produced the highest correlation with composition grades corroborates and extends findings of Anderson (1956), Chase et al. (1963), Fisher (1955), Horst (1957), Munday (1967, 1968), Travers (1949), and studies by the American College Testing Program (1973). . . . With its emphasis on knowledge directly pertaining to writing - verb agreement, pronoun reference, punctuation, and usage conventions - it would be surprising should this test fail to display a comparatively strong and persuasive relation with grade in a composition course. (p. 1113)

But as Odell (1981) warned, improved competency tests may not be enough:

The current interest in testing "competence" and "minimum competence" has brought protests from many members of our profession - understandably so, since this testing often involves evaluation procedures that are ill-conceived and misleading. One response to the testing movement is to point out fallacies in procedures used in assessing students' writing. But no matter how perceptive or reasonable we are in criticizing existing assessment procedures, criticism is not enough. The surest way to get rid of invalid assessment

procedures is to replace them with something better. We must demonstrate that we have alternative procedures for assessment, procedures that will let us describe students' performance accurately and that will help us see what students need to do in order to write more competently on future assignments. State legislators and the taxpayers who support our schools have a right to expect us to provide such assessment. And so do our students. (pp. 133-134)

The research study described in the next chapter represents an initial attempt to answer Odell's challenge. If teacher educators are to be proactive rather than reactive in their response to the complex issues involved with the teacher competency movement, innovative studies designed to help understand the academic qualifications of teacher education students must be conducted. Ernest Boyer, president of the Carnegie Foundation for the Advancement of Teaching, emphasized the important role of research in the area of writing competency assessment when he stated that "writing is the most important and most neglected skill in school. It is through clear writing that clear thinking can be developed" ("English, Writing Stressed," 1983). By helping prospective teachers to improve their writing skills, teacher educators will begin the first steps toward rebuilding confidence in our nation's educational system.

CHAPTER III

METHODOLOGY

This study was based on a major research project conducted by the College of Education at Iowa State University. In 1979 the College, through its Research Institute for Studies in Education (RISE), initiated a longitudinal study designed to gather descriptive data about students enrolled in the College's teacher education program. Each semester data were collected through the use of student completed questionnaires administered at three major points in the students' program: at the end of the students' first education course (Elementary/Secondary Education 204), at the time of formal admittance to the teacher education program, and finally at the time of their graduation from the program.

This study involved an analysis of the writing ability of teacher education students at Iowa State University and focused on students enrolled in their first education course during the Fall 1981, Spring 1982, Fall 1982, and Fall 1983 semesters. Data concerning academic and personal characteristics of the students were obtained from the RISE study cited above and from the ISU registrar's office. Information on the writing ability of the students was obtained from analysis of the students' writing sample

evaluated by the Education 204 instructors and by outside readers trained in grading English compositions using the evaluation system of the university's required English 104 and English 105 composition courses.

RISE duplicated methods described by Dillman (1978) to insure that the procedures followed in the longitudinal study would yield valid and reliable results. The Iowa State University Committee on the Use of Human Subjects in Research reviewed both studies and concluded that the rights of the participants were adequately protected. The RISE study was conducted by Drs. Harold Dilts, Richard Warren, and Ann Thompson and the writing study was conducted by Drs. Harold Dilts and Charles Kniker, and the investigator. Support for both studies was provided by the RISE staff and faculty and staff in the College of Education.

Participants

The participants in this study originally consisted of 432 students enrolled in the first teacher education course at ISU during the Fall 1981, Spring 1982, Fall 1982, and Fall 1983 semesters. The 432 students represented 45.2 percent of the 956 students enrolled in the course entitled "Elementary/Secondary Education 204 - Foundations of American Education" during those four semesters. Designed for freshmen and sophomore students, Education 204 provides an overview of the historical, philosophical, and social roles

the schools play in American society. The course is taken by most students prior to formal admission to teacher education, and thus also serves as an introduction to careers in teaching for elementary and secondary education majors and other interested students.

In order to obtain demographic data for the 432 students, an SPSSx procedure was conducted to find the students from the writing study who had also participated in the RISE longitudinal teacher education study. After matching the students by social security number, the final sample of 332 students was obtained. Of the 332 students, 65 (19.6%) provided writing samples during the Fall 1981 semester, 127 (38.3%) during the Spring 1982 semester, 66 (19.9%) during the Fall 1982 semester, and 74 (22.2%) during the Fall 1983 semester. Due to the cost of hiring the English evaluators, student writing samples were not collected from all sections of the Education 204 course, resulting in the variance in percentage sampled between semesters. The students in the sample, however, were representative of the students enrolled in the Education 204 course due to the random assignment of students to the multiple sections of the course.

Instruments

Information from the RISE study came from a questionnaire administered to Education 204 students at the

end of each semester (Appendix A). Only RISE data from the Fall 1981, Spring 1982, Fall 1982, and Fall 1983 were used in the writing study. The Fall 1981 semester was chosen as the starting date for the study because it represented the first semester since Iowa State University had changed from the quarter to the semester system. The RISE questionnaire was designed to yield information regarding the students' academic and personal background, career plans, work experiences, and attitudes about education. Information concerning the students' writing ability came from an analysis of writing samples turned in by the Education 204 students. The students were requested to choose a question concerning an educational issue (Appendix B), and write a one to two page response outside of class in a journal that they periodically handed in to their instructor. The Education 204 instructors evaluated the compositions, and then, unknown to the students, an outside reader trained in grading English compositions and using the evaluation system of the university's required English 104 and English 105 composition courses, also evaluated the writing samples. The outside readers used a 16 point scale to grade the compositions, analyzing them for proper use of material, organization, expression, and mechanics (Appendix C).

Procedures

At the end of each semester, the Education 204

instructors administered the RISE longitudinal study questionnaire in each of their sections, with responses made on a voluntary basis. Of the 956 students enrolled in the course during the four semesters, 884 (92.5%) returned the questionnaire. RISE staff members coded the student responses using a numerical key, and the data were keypunched for use with the university's mainframe Wylbur computer system by staff members at the Iowa State University Computation Center. Only the following variables from the RISE research were used in the present study: the students' high school rank, high school size, Iowa State University grade point average, age, sex, and marital status.

The writing samples of 432 students (45.2%) in selected sections of Education 204 were also collected at the end of each of the four semesters. Instructors evaluated their students' writing samples, using a zero to four point scale during the Fall 1981, Spring 1982, and Fall 1982 semesters and a zero to seven point scale during the Fall 1983 semester. The grading scale was changed at the request of the Education 204 instructors to provide more latitude in awarding scores for the compositions. The Education 204 instructors used their own professional judgement in evaluating the compositions, and no training in analysis of writing skills was provided. The outside readers, hired by the Department of Secondary Education and trained in

analyzing English compositions, would then evaluate the samples using a 16 point scale with zero the lowest score possible. The 16 point scale was chosen by the English evaluators because of their familiarity with its use and the resulting consistency in grading. The readers looked at four categories including material, organization, expression, and mechanics, rating each of the four from unacceptable (0 points) to poor (1 point), fair (2 points), good (3 points), and excellent (4 points). The writing sample scores awarded by the Education 204 instructors were then multiplied by a conversion factor to allow comparison with the writing sample scores awarded by the outside readers.

Following the evaluation process, information regarding the students' academic background was gathered from university records. This included ACT Composite scores, ACT English scores, English 104 grades, English 105 grades, and the students' final Education 204 grade. The course grades were converted to numerical scores using the following scale: A (5 points), B (4 points), C (3 points), D (2 points), and F (1 point). The data were then keypunched and entered into the university's mainframe Wylbur computer system by staff members at the ISU Computation Center.

With the help of RISE staff members, the investigator used SPSSx procedures (Nie, Hull, Jenkins, Steinbrenner & Bent, 1983) with social security numbers to match students

that took part in the RISE longitudinal study and the writing study. After deleting student records that contained duplicate social security numbers, students in the two studies were matched, creating the final sample of 332 students (34.7%).

Analysis

The hypotheses of the study were tested using statistical methods described by Hinkle, Wiersma, and Jurs (1979) and Nie, Hull, Jenkins, Steinbrenner, and Bent (1983). Pearson correlation procedures were used to test the null hypothesis (HO1) that no significant relationships exist among selected variables. A paired-samples student's t-test was conducted to test the null hypothesis (HO2) that no significant difference exists between the Education 204 instructor writing sample scores and the English evaluator writing sample scores. Finally, multiple regression procedures were used to test the null hypothesis (HO3) that there is no contribution to the prediction of a student's English evaluator writing score by combinations of selected variables including:

Time of Enrollment in Education 204

Sex

Age

High School Rank

High School Size

Iowa State University Grade Point Average

English 104 Grade

English 105 Grade

ACT Composite Score

ACT English Subscore

CHAPTER IV

RESULTS AND DISCUSSION

Characteristics of the Sample

The results of this research study are presented in this chapter. Demographic and academic characteristics of students in the sample will be discussed first, followed by analysis of the data relating to the hypotheses of the study.

Students involved in the study were enrolled in the Education 204 course during one of four semesters. As indicated in Table 1, 19.6 percent of the 332 students were enrolled during the Fall 1981 semester, 38.3 percent in the Spring 1982 semester, 19.9 percent in the Fall 1982 semester, and 22.2 percent in the Fall 1983 semester. The breakdown of students by section of the Education 204 course is also provided in Table 1. Students enrolled in section A during any of the semesters are compared with students enrolled in sections B through F. Enrollment by section was not recorded in the Fall 1981 semester, resulting in the 65 missing values reported in the table.

Data related to the students' age and sex are included in Table 1. The students were predominantly female (69.6%), and under age 22 (85.0%).

TABLE 1. SELECTED CHARACTERISTICS OF EDUCATION 204 STUDENTS

CHARACTERISTICS	NUMBER	ADJUSTED PERCENT
TIME		
Fall 1981	65	19.6
Spring 1982	127	38.3
Fall 1982	66	19.9
Fall 1983	74	22.2
	----	----
	332	100.0
SECTION		
A	52	19.5
B	62	23.2
C	56	21.0
D	45	16.9
E	29	10.9
F	23	8.5
Missing Values	65	****
	----	----
	332	100.0
AGE		
18-19	136	41.0
20-21	146	44.0
22-25	30	9.0
26 and Above	20	6.0
	----	----
	332	100.0
SEX		
Female	231	69.6
Male	101	30.4
	----	----
	332	100.0

Table 2 includes data concerning the students' marital status, high school rank, high school size, and college grade point average at the time the writing samples were collected. The majority of the 332 Education 204 students were single (90.9%), and 77.3 percent of the students reported that they graduated in the top 25 percent of their high school class. Students graduating in the top 10 percent of their high school class represented 37.0 percent of the sample, and 6.6 percent graduated in the lower 50 percent of their high school class. As indicated in the table, 56.9 percent of the students reported graduating from high schools with 500 or fewer students while 24.7 percent reported graduating from high schools with 200 or fewer students. Education 204 students graduating from high schools with over 1000 students represented 29.8 percent of the sample. In terms of Iowa State University grade point average, 59.5 percent reported a cumulative G.P.A. of 2.51 or above, while 40.5 percent of the students had a G.P.A. of 2.50 or below. Seven point two percent of the students reported a G.P.A. of 3.51 or higher, and 16.7 percent indicated a G.P.A. of 2.01 or lower.

Analysis of the ACT composite scores reported in Table 3 revealed that 11.7 percent of the Education 204 students earned a score of 28 or above while 13.3 percent scored 16 and below. Ninety-two students (47.0%) scored between 20 and

TABLE 2. ADDITIONAL STUDENT CHARACTERISTICS

CHARACTERISTICS	NUMBER	ADJUSTED PERCENT
MARITAL STATUS		
Single	300	90.9
Married	21	6.4
Married, Children	7	2.1
Other	2	0.6
No Response	2	****
	-----	-----
	332	100.0
HIGH SCHOOL RANK		
Upper 10%	122	37.0
Upper 11-25%	133	40.3
Upper 26-50%	53	16.1
Upper 51-75%	18	5.5
Lower 25%	4	1.1
No Response	2	****
	-----	-----
	332	100.0
HIGH SCHOOL SIZE		
200 and Below	82	24.7
201-500	107	32.2
501-1000	44	13.3
1001-2000	78	23.5
2001 and Above	21	6.3
	-----	-----
	332	100.0
COLLEGE GRADE POINT AVERAGE		
3.51-4.00	17	7.2
3.01-3.50	54	22.6
2.51-3.00	71	29.7
2.01-2.50	57	23.8
Less than 2.01	40	16.7
Transfer Students	81	****
No Response	12	****
	-----	-----
	332	100.0

TABLE 3. ACT COMPOSITE SCORES FOR EDUCATION 204 STUDENTS

SCORE	NUMBER	ADJUSTED PERCENT
28 and Above	23	11.7
26-27	28	14.2
20-25	92	47.0
17-19	27	13.8
16 and Below	26	13.3
Transfer Students	136	****
	-----	-----
	332	100.0
Mean = 22.22 (N=196)		
Standard Deviation = 4.48		

TABLE 4. ACT ENGLISH SCORES FOR EDUCATION 204 STUDENTS

SCORE	NUMBER	ADJUSTED PERCENT
28 and Above	4	2.4
26-27	9	5.2
20-25	94	55.5
17-19	34	20.2
16 and Below	28	16.7
Transfer Students	163	****
	-----	-----
	332	100.0
Mean = 20.66 (N=169)		
Standard Deviation = 3.88		

25 on the test. ACT English subscores for the Education 204 students reported in Table 4 indicated that 2.4 percent scored 28 or higher while 16.7 percent scored 16 and below. 55.5 percent of the students scored between 20 and 25 on the test. ACT data were not available for all students because transfer students are not required to submit ACT scores for admission to Iowa State University.

Student grades in the English 104, English 105, and Education 204 courses are reported in Table 5. In the English 104 course, the grade distribution for 199 students was: A (12.1%), B (47.7%), C (35.7%), D (3.0%), and F (1.5%). Students in the English 105 course earned the following grades: A (12.7%), B (49.3%), C (33.7%), D (3.3%), and F (1.0%). In the Education 204 course, the grade distribution for 330 students was: A (29.4%), B (40.3%), C (27.0%), D (2.7%), and F (0.6%). Grade information was not available for all students due to students testing out of specific courses, having received credit for the course from another institution or not having enrolled in the course at the time of the study.

Student writing sample evaluation scores are indicated in Table 6. The student scores awarded by the outside English evaluators ranged from 0 - 16 with a mean of 8.10 and a standard deviation of 3.32. Seven point eight percent of

TABLE 5. STUDENTS' ENGLISH 104, ENGLISH 105 AND EDUCATION
204 GRADES

GRADES	NUMBER	ADJUSTED PERCENT
ENGLISH 104 GRADES		
A	24	12.1
B	95	47.7
C	71	35.7
D	6	3.0
F	3	1.5
Test-Out Students	12	****
Transfer Students	95	****
Not Yet Enrolled Students	26	****
	-----	-----
	332	100.0
Valid Cases = 199		
ENGLISH 105 GRADES		
A	26	12.7
B	101	49.3
C	69	33.7
D	7	3.3
F	2	1.0
Test-Out Students	3	****
Transfer Students	58	****
Not Yet Enrolled Students	66	****
	-----	-----
	332	100.0
Valid Cases = 205		
EDUCATION 204 GRADES		
A	97	29.4
B	133	40.3
C	89	27.0
D	9	2.7
F	2	0.6
Transfer Students	1	****
Incomplete Grade	1	****
	-----	-----
	332	100.0
Valid Cases = 330		

TABLE 6. ENGLISH EVALUATOR AND EDUCATION 204 INSTRUCTOR
WRITING EVALUATION SCORES

SCORE	NUMBER	ADJUSTED PERCENT
ENGLISH EVALUATOR SCORES		
16	3	.9
14-15	23	6.9
12-13	42	12.7
10-11	60	18.1
8-9	78	23.5
6-7	66	19.8
4-5	44	13.3
2-3	10	3.0
0-1	6	1.8
	----	----
	332	100.0
Mean = 8.10 (N=332)		
Standard Deviation = 3.32		
EDUCATION 204 INSTRUCTOR SCORES		
16	104	31.6
14-15	7	2.1
12-13	70	21.3
10-11	13	4.0
8-9	71	21.6
6-7	8	2.4
4-5	49	14.9
2-3	3	.9
0-1	4	1.2
Missing Values	3	****
	----	----
	332	100.0
Mean = 10.75 (N=329)		
Standard Deviation = 4.53		

the students scored 14 and above, 54.3 percent scored between 8 and 13, 33.1 percent between 4 and 7, and 4.8 percent between 0 and 3. The student scores awarded by the Education 204 instructors ranged from 0 - 16 with a mean of 10.75 and a standard deviation of 4.53. Thirty-three point seven percent of the students scored 14 and above, 46.9 percent scored between 8 and 13, 17.3 percent between 4 and 7, and 2.1 percent between 0 and 3.

Testing of Hypothesis One

H01: There are no significant relationships between selected variables including:

Age

Sex

Marital Status

High School Rank

High School Size

Iowa State University Grade Point Average

ACT Composite Score

ACT English Subscore

English 104 Grade

English 105 Grade

Education 204 Grade

English Evaluator Writing Score

Education 204 Instructor Writing Score

Using Pearson correlation statistical procedures, the

TABLE 7. PEARSON CORRELATION COEFFICIENTS FOR SELECTED VARIABLES

	1	2	3	4
1. ACT COMPOSITE				
2. ACT ENGLISH	.74**			
3. ENGLISH 104 GRADE	.34**	.40**		
4. ENGLISH 105 GRADE	.46**	.50**	.44**	
5. ENGLISH EVALUATOR SCORE	.34**	.41**	.34**	.40**
6. EDUCATION 204 INSTRUCTOR SCORE	.18**	.29**	.30**	.36**
7. EDUCATION 204 GRADE	.46**	.38**	.39**	.46**
8. HIGH SCHOOL RANK	.44**	.38**	.29**	.38**
9. COLLEGE GRADE POINT AVERAGE	.49**	.45**	.48**	.54**
10. AGE	.08	.03	.01	.04
11. SEX	.14*	.15*	.14*	.05
12. HIGH SCHOOL SIZE	.07	.07	.08	.01
13. MARITAL STATUS	.08	.02	.10	.06

* Significant at .05 level ($p < .05$).

** Significant at .01 level ($p < .01$).

5	6	7	8	9	10	11	12
.54**							
.51**	.51**						
.27**	.27**	.33**					
.45**	.45**	.62**	.49**				
.12*	.11*	.21**	.18**	.05			
.15**	.16**	.05	.15**	.08	.05		
.01	.05	.02	.17**	.06	.01	.00	
.11*	.04	.13**	.08	.08	.68**	.01	.04

hypothesis that there are no significant relationships between the selected variables was rejected at the .01 level. The Pearson correlation matrix and associated significance levels for the variables are shown in Table 7. An inspection of the data reveals that the strongest significant correlation among the variables occurred between the students' ACT composite and ACT English scores ($r = .74$). The next strongest positive correlation existed between the variables age and marital status ($r = .68$). This finding was expected because as individuals get older they tend to marry. Iowa State grade point average showed moderate positive correlation with Education 204 grade ($r = .62$) and English 105 grade ($r = .54$), and low positive correlation with ACT composite score ($r = .49$), high school rank ($r = .49$), English 104 grade ($r = .48$), English evaluator writing score ($r = .45$), and ACT English score ($r = .44$).

A low to moderate tendency was observed for students having higher English evaluator writing scores to also have higher Education 204 instructor writing scores ($r = .54$), Education 204 grades ($r = .51$), ACT English scores ($r = .41$), English 105 grades ($r = .40$), and English 104 grades ($r = .34$). Analysis of these data also revealed that the variables of age, sex, marital status, and high school size indicated little if any correlation to the other variables in the study.

Testing of Hypothesis Two

HO 2: There is no significant difference between the Education 204 instructor writing scores and the English evaluator writing scores.

One of the main purposes of this study was to determine if the Education 204 instructors would grade the student writing samples differently than the English evaluators who had been trained in evaluating English compositions. A student's paired t-test procedure was used to test the hypothesis that there would be no significant difference between the Education 204 instructor writing scores and the English evaluator writing scores. This hypothesis was rejected ($t = 10.19$, $p < .01$), indicating a significant difference between the student scores awarded by the two groups of evaluators. The mean of the English evaluator writing sample scores was more than two points lower than the mean of the scores given by the Education 204 instructors. These means were 8.53 and 10.75 respectively.

Analysis of the score distributions of the two groups revealed the reason for the significantly lower English evaluator writing scores mean. The English evaluators awarded a score of 14 or higher to only 7.8 percent of the 332 students while the Education 204 instructors awarded scores of 14 or higher to 33.7 percent of the students. When the highest score of 16 is considered, the difference between

the two groups is even more striking. Only 0.9 percent of the students were awarded a score of 16 by the English evaluators while the Education 204 instructors awarded a score of 16 to 31.6 percent of the students. Converting the scores to letter grades (A = 90%, B = 80%, C = 70%, D and F = 69% and below) also illustrated the significant difference between the two groups. The English evaluators would have awarded 7.8 percent of the students As and 12.7 percent Bs compared to the Education 204 instructors who would have awarded 33.7 percent of the students As and 21.3 percent Bs. At the middle and low end of the scale, the English evaluators would have awarded 18.1 percent of the students Cs and 61.4 percent Ds and Fs. The Education 204 instructors would have awarded 4.0 percent Cs and 41.0 percent Ds and Fs.

Analysis of the standard deviations of the two groups indicated that there was also less variance in the scoring by the English evaluators, indicating more consistent grading patterns than the Education 204 instructors. The results of the statistical analysis are contained in Table 8.

Testing of Hypothesis Three

HO3: There is no contribution to the prediction of a student's English evaluator writing score by combinations of selected variables including:

Time of Enrollment in Education 204

TABLE 8. COMPARISON OF ENGLISH EVALUATOR AND EDUCATION 204 INSTRUCTOR WRITING SCORES

EVALUATOR	N	MEAN	SD	T	2-TAILED PROBABILITY
ENGLISH EVALUATOR WRITING SCORE	328	8.53	3.33		
				10.19**	0.00
EDUCATION 204 INSTRUCTOR WRITING SCORE	328	10.75	4.54		
** Significant at .01 level.					

Sex

Age

High School Rank

High School Size

Iowa State University Grade Point Average

English 104 Grade

English 105 Grade

ACT Composite Score

ACT English Subscore

A major purpose of this study was to determine if it would be possible to predict Education 204 students' writing ability (as measured by the English evaluator writing scores)

based on information available to the Education 204 instructors regarding the students' personal and academic characteristics. English evaluator writing scores were chosen as the unit of measurement for the dependent variable writing ability rather than the Education 204 instructor scores due to the professional training the English evaluators had received in analyzing student writing skills. If such predictions were possible, then teacher education students identified as having potential writing problems could receive appropriate remediation early in their program of study. Such information would also aid teacher education faculty when making decisions concerning student applications for admission to and continuance in the teacher education program.

Preliminary analysis of the data using analysis of variance (ANOVA) and effect-coding multiple regression procedures indicated that although there were significant differences between the variables, no interaction effects existed. The ANOVA procedures did allow inspection of the cell means when the dependent variable (English evaluator writing scores) was compared to the independent category variables (time, sex, age, and high school rank). The variable time of enrollment in Education 204 was composed of four categories including the Fall 1981, Spring 1982, Fall 1982, and Fall 1983 semesters. The mean English evaluator

writing scores for the four semesters were 5.69 in the Fall 1981 semester, 8.41 in the Spring 1982 semester, 9.18 in the Fall 1982 semester, and 8.78 in the Fall 1983 semester. The significantly lower scores in the Fall 1981 semester appear to have resulted from the strict grading procedures of the first outside English reader. When the situation was discovered, discussions were held between the English evaluators and Dr. Charles Kniker, coordinator of the Education 204 instructors. The grading process was modified and the grades became more consistent during the following semesters.

When the English evaluator writing scores were broken down by sex, females had a mean score of 8.40 and males averaged 7.48 out of a possible 16 points. Student age was composed of four categories, and the mean writing scores were distributed as follows: ages 18-19 (7.66), ages 20-21 (8.47), ages 22-25 (7.87), and ages 26 and above (9.10). The mean score in this last category, although significantly different from the mean scores in the other categories, contained only 20 of the 332 participants in the study. The variable high school rank consisted of five categories, and the mean English evaluator writing scores were: upper 10 percent (9.23), upper 11-25 percent (7.62), upper 26-50 percent (7.62), upper 51-75 percent (6.00), and lower 25 percent (7.00). The mean writing score of students ranking

in the upper 10 percent of their high school class was significantly different from the mean scores in the other categories.

Prior to using forward stepwise regression procedures, the nominal variable time was recoded into a "dummy" variable to make it continuous. The dummy variable T1 represented the Fall 1981 semester writing scores that were significantly different from the other three semesters.

Because the available academic information on specific students can vary so greatly, four models using different pieces of information were developed to predict writing ability. Model one used demographic variables and variables associated with the students' high school career, including time of enrollment in Education 204 (T1), sex, age, high school rank, and high school size. Prediction model two added Iowa State University grade point average to the list of variables, and model three added English 104 and English 105 grades. Model four included ACT composite and ACT English scores, but because ACT data are not available for large numbers of Iowa State University students, its usefulness is questionable.

Teacher educators would use model one to predict writing ability for those students just entering the institution. For those students who had established an Iowa State University grade point average, a more reliable predictor of

writing ability would be model two. If the teacher education students had also taken the required English 104 and English 105 composition courses, the additional information would allow the use of model three to predict writing ability.

The usefulness of the fourth model including students' ATC composite and English scores was questionable due to the small number of student records analyzed by the SPSSx computer program when the multiple regression procedure was conducted. The SPSSx program uses only those student records that contain data pertaining to every variable. The computer disregarded the records of 136 students lacking ACT composite scores and the 163 students lacking ACT English scores as well as the records of students lacking scores for any of the other variables. The 55 students included in the analysis represented too small a group from which to make accurate predictions.

The regression formula used for prediction of the independent variable (English evaluator writing score) in this study was of the form: $\hat{Y} = a + b_1X_1 + b_2X_2 + \dots + b_kX_k$. " \hat{Y} " is the predicted variable and "X" is the predictor variable; "b" is the regression coefficient (slope of the prediction line) and "a" is the regression constant (intercept). The statistic Multiple R Square, the squared Pearson correlation coefficient between the predicted variable and the linear combination of the predictor

variables, was used to explain the amount of variation in the predicted variable accounted for by the combined predictors.

Regression Model One

Prediction model one was designed to utilize variables that would be available for students prior to their arrival on campus. Thus hypothesis three (H03) in this model stated that there is no contribution to the prediction of a student's English evaluator writing score by a combination of selected variables including: time (T1), sex, age, high school rank, and high school size. Using the SPSSX forward stepwise multiple regression procedure, the hypothesis was tested and rejected at the .01 level of significance ($F(4,324) = 28.01, p < .01$).

The analysis revealed that the student's high school rank as a predictor of writing ability accounted for 9.0 percent of the variation. Age contributed to the prediction accounting for 2.0 percent and sex accounted for an additional 2.0 percent. Because of the significant English evaluator writing scores in the Fall 1981 semester, the dummy variable time (T1) contributed to the prediction accounting for 13.0 percent of the variance. After time (T1), high school rank, age, and sex were considered, the variable high school size did not make a significant contribution to the prediction. Analysis of the Pearson correlation coefficients indicated the following positive relationships: English

TABLE 9. SUMMARY OF MODEL ONE REGRESSION ANALYSIS

VARIABLE	MULTIPLE R	R SQUARE	B
T1	.36	.13	3.15
HIGH SCHOOL RANK	.46	.22	1.13
AGE	.49	.24	.17
SEX	.51	.26	-.84
CONSTANT			-1.06

B = Coefficient of the variable in the prediction equation.

T1 = Fall 1981.

N = 329.

F (4,324) = 28.01, $p < .01$.

evaluator writing score with time of enrollment in Education 204 (T1) ($r = .36$), high school rank ($r = .27$), age ($r = .12$), and sex ($.15$). The best prediction equation as indicated in Table 9 was: English evaluator writing score = $-1.06 + 3.15 (T1) + 1.13 (\text{high school rank}) + .17 (\text{age}) + (-.84) (\text{sex})$. Students enrolled in any semester other than Fall 1981 would receive a score of 0 for the T1 value in the formula; a student in the Fall 1981 semester would receive a score of 1. This statistical procedure was designed to compensate for the strict grading procedures of the first

English evaluator.

Regression Model Two

Prediction model two utilized the previous variables of time (T1), sex, age, high school rank, and high school size and added more current student information in the form of Iowa State University grade point average at the time of enrollment in the Education 204 course. Hypothesis three (HO3) in this model stated that there is no contribution to the prediction of a student's English evaluator writing score by a combination of selected variables including: time (T1), sex, age, high school rank, high school size, and Iowa State University grade point average. The hypothesis was tested, and on the basis of the regression analysis the hypothesis was rejected at the .01 level of significance ($F(2,233) = 44.90, p < .01$). The analysis revealed that 28.0 percent of the observed variability in English evaluator writing scores can be explained by the variable Iowa State University grade point average and the dummy variable time of enrollment in Education 204 (T1). A student's ISU grade point average as a predictor of writing ability accounted for 18.0 percent of the variance while the dummy variable time (T1) accounted for 10.0 percent of the variance. After ISU grade point average and time (T1) were considered, the variables of high school rank, age, sex, and high school size did not make a significant contribution to the prediction. English

TABLE 10. SUMMARY OF MODEL TWO REGRESSION ANALYSIS

VARIABLE	MULTIPLE R	R SQUARE	B
ISU GRADE POINT AVERAGE	.43	.18	1.21
T1	.53	.28	2.63
CONSTANT			1.90

B = Coefficient of the variable in the prediction equation.

T1 = Fall 1981.

N = 236.

F (2,233) = 44.90, $p < .01$.

evaluator writing score and ISU grade point average had a moderate positive correlation ($r = .43$) and it appears that the effect of high school rank, a significant predictor in model one, was absorbed by the ISU grade point average effect. The best prediction equation was: English evaluator writing score = $1.90 + 1.21$ (ISU Grade Point Average) + 2.63 (T1). The results of the multiple regression analysis are indicated in Table 10.

Regression Model Three

Prediction model three was designed to utilize the variables of sex, age, high school rank, and high school size that would be available for students prior to their arrival

at the university, and the variable of ISU grade point average at the time of the students' enrollment in the Education 204 course. In addition, the grades of students in the university required English 104 and English 105 composition courses were included in the regression analysis. The number of students decreased from 236 in model two to 133 in model three for numerous reasons. Transfer students may have received credit but no grade for one or two of the English courses, and other students may have tested out or not yet taken the courses.

Hypothesis three (H03) in this model stated that there is no contribution to the prediction of a student's English evaluator writing score by a combination of selected variables including: time (T1), sex, age, high school rank, high school size, ISU grade point average, English 104 grade, and English 105 grade. Using the forward stepwise multiple regression procedure, the hypothesis was tested and rejected at the .01 level of significance ($F(3,129) = 15.0, p < .01$). A student's ISU grade point average was the best predictor of English evaluator writing scores accounting for 12.0 percent of the variation. The dummy variable time (T1) contributed to the prediction accounting for 11.0 percent and a student's English 105 grade accounted for an additional 3.0 percent. After ISU grade point average, time (T1), and English 105

TABLE 11. SUMMARY OF MODEL THREE REGRESSION ANALYSIS

VARIABLE	MULTIPLE R	R SQUARE	B
ISU GRADE POINT AVERAGE	.35	.12	.72
T1	.48	.23	2.27
ENGLISH 105 GRADE	.51	.26	.78
CONSTANT			1.30

B = Coefficient of the variable in the prediction equation.

T1 = Fall 1981.

N = 133.

F (3,129) = 15.0, $p < .01$.

grade were considered, the variables English 104 grade, high school rank, age, sex, and high school size did not make a significant contribution to the prediction.

Analysis of the Pearson correlation coefficients indicated the following positive relationships: English evaluator writing score with ISU grade point average ($r = .35$), English 105 grade ($r = .33$), and time (T1) ($r = .29$). The best prediction equation as indicated in Table 11 was: English evaluator writing score = 1.30 + .72 (ISU grade point average) + 2.27 (T1) + .78 (English 105 grade).

Regression Model Four

In prediction model four, the variables ACT composite score and ACT English subscore were added to the variables used in model three. Thus, hypothesis three (H03) in this model stated that there is no contribution to the prediction of a student's English evaluator writing score by a combination of selected variables including: time (T1), sex, age, high school rank, high school size, ISU grade point average, English 104 grade, English 105 grade, ACT composite score, and ACT English subscore. Due to the method used to calculate the stepwise multiple regression statistics, the computer deleted a student's entire data record if a score for any one of the variables entered into the regression analysis was missing. ACT composite scores were missing for 136 students and ACT English subscores were missing for 163 students, and information concerning missing English 104 and English 105 grades is found in Table 5. As a result of the missing cases, the total number of students involved in prediction model four was 55. Because of the small number, any regression analysis data would be misleading and would not yield an accurate prediction equation. Analysis of the Pearson correlation coefficients, however, did reveal that although a moderate to high positive relationship existed between ACT composite and ACT English scores ($r = .64$), when English evaluator writing scores were compared to ACT

composite scores, there was little if any correlation ($r = .07$). When Pearson correlation coefficients were run on the total sample, however, the correlation between English evaluator writing score and ACT composite scores was .34. A similar comparison with ACT English subscores ($r = .08$) also indicated little if any correlation. This finding also conflicts with the data for the total sample when the correlation coefficient was .41. The major reason for the discrepancy lies with the very small number of students available for regression model four. The correlation coefficients for the total sample of 332 students are a much more reliable indicator of the strength of the relationships between the variables. It would appear that the English 104 grades ($r = .32$) and the English 105 grades ($r = .33$) are accounting for more of the variation in the English evaluator writing scores than are the ACT composite and English scores.

Summary of Prediction Models

Three of the four prediction models described in this chapter yielded regression equations containing student variables that were statistically significant. Analysis of the R Square values for the predictor variables, however, revealed that the variables were accounting for only moderate amounts of the variance in the predicted variable writing ability. Model one predictor variables (time of enrollment in Education 204 (T1), high school rank, age, and sex)

accounted for a total of 26.0 percent of the variance in writing ability while model two predictor variables (ISU grade point average and time of enrollment in Education 204) accounted for a total of 28.0 percent of the variance. Three predictor variables in model three (ISU grade point average, time of enrollment in Education 204, and English 105 grade) accounted for 26.0 percent of the variance in writing ability. Finally, model four involving ACT composite and English scores was not used to develop a prediction equation due to the small number of student records available for the regression analysis.

One reason for the moderate R Square values involves the problem of measuring a complex variable such as writing ability. In addition to fundamental writing skills involving grammar and syntax, effective writing is also a function of the writer's creativity and motivation at the time of the writing task. Attempts to create one equation to totally predict a variable this complex is unrealistic. Although it would be desirable to have the predictor variables accounting for 40.0 to 60.0 percent of the variance in writing ability, the usefulness of the prediction equations presented in this study should not be discounted. The predictor variables did account for one-fourth to one-third of the variance in the predicted variable writing ability. These values do not allow the prediction equations to stand alone, but the

predicted writing ability scores obtained by using models one through three could be combined with data from ACT composite and English tests and the National Teacher Examination Communication Skills Test to give a more accurate assessment of the writing ability of teacher education students. By utilizing data from a variety of sources, informed decisions concerning the writing ability of teacher education students can be made.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

This study was designed to gather information regarding the writing skills of beginning teacher education students at Iowa State University. A review of related literature revealed concern on the part of educators, legislators, business leaders, and the general public that certified teachers and teacher candidates are lacking competence in both professional and basic skills areas. Overall traits of teacher competence were examined with a specific focus on the measurement of writing competencies. One purpose of the study was to determine if instructors in the first course in the Iowa State University teacher education program (Education 204) evaluated their students' writing samples in a significantly different manner than English readers hired to evaluate the samples utilizing grading procedures used in the university's required English composition courses. A second purpose of the study was to determine if student writing ability, as measured by the English evaluator writing scores, could be predicted from various academic and personal characteristics of the students.

The study was part of a longitudinal evaluation of the Iowa State University College of Education's teacher

education program conducted by the Research Institute for Studies in Education (RISE). The participants were 332 students enrolled in the Education 204 course during the Fall 1981, Spring 1982, Fall 1982, and Fall 1983 semesters. Each student wrote a one to two page response to a question of their choice regarding an educational issue. The writing compositions were evaluated by the Education 204 instructors and English evaluators trained in the grading procedures used in the university's required English 104 and English 105 composition courses. In addition to the writing scores, demographic and academic information was obtained from university records and the RISE longitudinal study. Pearson correlation, student's paired-samples t - test, and multiple regression statistical procedures were utilized to analyze the data.

Conclusions

The following conclusions emerged from the study:

1. Analysis of the ACT composite scores of Education 204 students partially confirmed the research findings of Weaver (1979) that indicated that education majors score lower on ACT tests than students in other subject areas. The mean score of Education 204 students was 22.22 on a scale of 1 to 36 compares with a mean of 23.50 for all incoming Iowa State University freshmen in 1983 (Roos, 1983).

Education 204 students did, however, score higher than the national ACT composite average (18.3) and the Iowa average (20.2). The Education 204 students scored lower than their freshmen counterparts at Iowa State University at the high extreme of the ACT scoring scale, but scored slightly higher at the lower extreme. The percentage of Education 204 students scoring 26 or higher was 25.9 percent compared with 34.4 percent of the 1983 entering ISU freshmen, while the percentage of Education 204 students scoring 19 or below was 23.5 percent compared with 22.0 percent of the 1983 freshmen (Voogd, 1984).

Education 204 student performance on the ACT English test was lower than their performance indicated by the ACT composite score. Whereas 25.9 percent of the students scored 26 or higher on the composite scale, only 7.6 scored 26 or higher on the English test. Twenty-seven point one percent of the Education 204 scored 19 or below on the composite while 36.9 percent scored 19 or below on the English test. Although the average Education 204 student score on the ACT English test was 20.7, 16.7 percent scored 16 or lower. Given that Fowler and Ross (1982) found that performance on the ACT English

test was a predictor of writing ability as measured by grade in a composition course, a significant number of Iowa State University education majors may have inadequate writing skills. Continued research in this area is recommended in order to identify those students who would benefit from additional remedial instruction. Results of the recently completed National Teacher Examination Communication Skills Test should help in that identification process.

2. The English evaluators graded the student compositions more strictly than did the Education 204 instructors. Results of the student's paired-samples t - test indicated a significant difference between the two groups ($t = 10.19$, $p < .01$), and analysis of mean scores revealed that the average score awarded by the Education 204 instructors was more than two points higher than the average score awarded by the English evaluators. The English evaluator scores also had a lower standard deviation (3.33 versus 4.54) indicating a more consistent grading pattern with more scores clustered closer to the mean.

Not only were the writing sample grades awarded by the Education 204 instructors higher than those

of the English evaluators, but the Education 204 course grades were also higher than the English 104 and English 105 courses. Inspection of the grade distribution in the Education 204 course revealed the following: As (29.4%), Bs (40.3%), Cs (27.0%), Ds (2.7%), and Fs (0.6%). The grade distribution for the English 104 course showed a lower percentage a As and a higher percentage of Cs: As (12.1%), Bs (47.7%), Cs (35.7%), Ds (3.0%), and Fs (1.5%). Distribution of English 105 grades were consistent with the grades awarded in the English 104 course: As (12.7%), Bs (49.3%), Cs (33.7%), Ds (3.3%), and Fs (1.0%)

These findings may support perceptions that teacher education programs may be easier in terms of grades and assignments than courses in other areas. The development of increased communication links between education faculty and English faculty is recommended so that discussions regarding the evaluation of teacher education student writing ability may take place. Such discussions could lead to the development of inservice training programs designed to help teacher educators to improve their skills in analyzing student writing. Improvement in this area coupled with the increased use of

standardized tests such as the National Teacher Examination Communication Skills Test would help to insure that graduating teacher candidates are competent writers.

3. Using stepwise multiple regression procedures, three of the four writing ability predication models yielded significant predictor variables. Each model was designed to use various student demographic and academic variables to predict teacher education student writing ability as measured by English evaluator scores on a writing sample. Model one assumed that only data regarding a student's pre-college background was available. The analysis revealed that the four variables of high school rank, age, sex, and time were predictors of the writing ability of Education 204 students ($R^2 = .26$). The best prediction equation was: English evaluator writing score = $-1.06 + 3.15 (T1) + 1.13$ (high school rank) + $.17$ (age) + $(-.84)$ (sex). T1 represented the dummy variable time (Fall 1981).

Model two included the variable ISU grade point average with the variables in model one. The effect of college grade point absorbed the effect of high school rank, age, and sex, that was evident in model one. The best prediction equation was: English

evaluator writing score = $1.90 + 1.21$ (ISU grade point average) + 2.63 (T1). The predictor variables accounted for 28.0 percent of the variance in the English evaluator writing scores.

Model three included information about a student's English 104 and English 105 grades with the variables used in models one and two. ISU grade point average continued to account for the most variance, but English 105 grade also served as a predictor. The best prediction equation was:
English evaluator writing score = $1.30 + .72$ (Iowa State University grade point average) + 2.27 (T1) + $.78$ (English 105 grade). The predictor variables accounted for 26.0 percent of the variance in the predicted variable.

Model four included ACT composite and ACT English scores with the variables used in models one, two, and three. Because numerous Iowa State University students do not have ACT test scores, the number of students in the model was reduced to 55. The small number of participants rendered the regression model useless as a predictor of student writing ability.

Caution must be exercised when using the three prediction models. Although each model involved predictor

variables that were statistically significant, the total amount of variance in the dependent variable writing ability accounted for by the predictor variables ranged from 26.0 to 28.0 percent. These values do make the prediction equations useful in predicting the writing ability of beginning teacher education students, but the equations should not be the only method employed for such purposes. Rather a "bank" of related information should be compiled for each teacher education student to provide a comprehensive overview of writing skills development. The National Teacher Examination Communication Skills Test and the new NTE Pre-Professional Skills Test of Writing for beginning teacher education students are sources of additional information. Given the findings in the Fowler and Ross study (1982), requiring education students to submit ACT composite and ACT English scores when applying for admission to teacher education would add another strong predictor variable to the prediction equations developed in this study.

It is also recommended that further research be conducted to examine the attitudes of the English evaluators that participated in this study. It would be useful to determine how their attitudes concerning the abilities of teacher education students influence the evaluation of the writing samples. Further study should also focus on the teacher education students. Many of the studies that have

been conducted concerning the competence of teacher education students have focused on individuals who indicate they are going into teaching as a career as opposed to those students who actually enter teacher education programs and complete student teaching experiences. Research involving this latter group may yield valuable results.

Professional teacher educators have a responsibility to insure the competence of the graduates of their programs. The ability to write effectively is an important component of the overall level of teacher competence. The research findings presented in this study represent a crucial first step toward insuring that teacher education candidates can write in a competent and professional manner.

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APPENDIX A - EDUCATION 204 QUESTIONNAIRE

Iowa State University *of Science and Technology* Ames, Iowa 50011



Secondary Education
College of Education
202 Quadrangle
Telephone 515-294-7002

Dear Teacher Education Student:

We are currently engaged in a research project designed to evaluate and improve the Teacher Education Program at Iowa State University.

Students in various phases of the program are being contacted to participate in the study. As a student beginning your Teacher Education classes, you can provide valuable information for our project. Your voluntary participation would be greatly appreciated.

You may be assured of complete confidentiality. We ask you for your social security number for data analysis procedures; we will match information from this questionnaire with instructor class information such as year in school and curriculum, and your evaluations of the Teacher Education Program as you progress through your program and careers. New identification numbers are assigned for data analysis and the information is analyzed in terms of groups, not in terms of individuals. Names and social security numbers are used only for contacting and matching purposes. The information provided is for use in this research project only.

We ask that you complete the enclosed questionnaire and return it by the end of the class period. If you have questions about this study, please contact the Office of Research Institute for Studies in Education, or call 515-294-7009.

Thank you for your assistance in our project; the information you provide should help us to continually improve the Teacher Education Program.

Sincerely,

Harold E. Dilts
Associate Dean

First, we would like to ask you some questions about your current involvement with the Teacher Education Program.

1. Please check the response which best describes your current position on applying to the Iowa State Teacher Education Program.

☐ I have been admitted to Teacher Education
☐ I have applied for admission to Teacher Education
☐ I plan to apply for admission to Teacher Education
☐ I am uncertain whether or not I will apply for admission to Teacher Education
☐ I plan to complete a Teacher Education Program at another institution
☐ I do not plan to apply to a Teacher Education Program

2. Check the response which best describes your primary reason for enrolling in Education 204.

☐ It is a requirement for the Teacher Education Program
☐ I wanted to obtain more information on a teaching career
☐ My advisor recommended the class
☐ Friends recommended the class
☐ It was the only class available during this time
☐ Other ---> Specify _____

3. In what way has Education 204 influenced your decision on teaching as a career?

☐ It has confirmed my previous decision to become a teacher
☐ It has caused me to decide to become a teacher
☐ It has confirmed my previous decision not to become a teacher
☐ It has caused me to decide not to become a teacher
☐ It has caused uncertainty about my decision to become a teacher
☐ It has caused uncertainty about my decision not to become a teacher
☐ It has not affected my decision

Now, we would like to ask you some questions about your plans for the future.

4. What is your current long-range career plan? Please specify area(s). Check the one most appropriate response.

☐ Elementary Teaching _____
☐ Secondary Teaching _____
☐ K-12 Teaching _____
☐ College or University Teaching _____
☐ School Counselor
☐ School Administrator
☐ Business or Industry _____
☐ Government Employment (Other than Military) _____
☐ Military
☐ Full-time Homemaker
☐ Other _____

5. How important is it that a job provide you with the following characteristics? Please circle one number for each characteristic. Use the following response categories.

Very Important . . . 5
 Important. 4
 Neutral. 3
 Unimportant. 2
 Very Unimportant . . 1

Please circle your response

- | | | | | | |
|---|---|---|---|---|---|
| a. Opportunity to be creative and original. . . | 5 | 4 | 3 | 2 | 1 |
| b. Opportunity to use special abilities or aptitudes. | 5 | 4 | 3 | 2 | 1 |
| c. Opportunity to work with people rather than things. | 5 | 4 | 3 | 2 | 1 |
| d. Opportunity to earn a good deal of money . . | 5 | 4 | 3 | 2 | 1 |
| e. Social status and prestige | 5 | 4 | 2 | 2 | 1 |
| f. Opportunity to effect social change. | 5 | 4 | 3 | 2 | 1 |
| g. Relative freedom from supervision by others. . | 5 | 4 | 3 | 2 | 1 |
| h. Opportunity for advancement. | 5 | 4 | 3 | 2 | 1 |
| i. Opportunity to exercise leadership | 5 | 4 | 3 | 2 | 1 |
| j. Opportunity to help and serve others | 5 | 4 | 3 | 2 | 1 |
| k. Adventure. | 5 | 4 | 3 | 2 | 1 |
| l. Opportunity for a relatively stable and secure future. | 5 | 4 | 3 | 2 | 1 |
| m. Fringe benefits (health care, retirement benefits). | 5 | 4 | 3 | 2 | 1 |
| n. Variety in the work. | 5 | 4 | 3 | 2 | 1 |
| o. Responsibility | 5 | 4 | 3 | 2 | 1 |
| p. Control over what I do | 5 | 4 | 3 | 2 | 1 |
| q. Control over what others do. | 5 | 4 | 3 | 2 | 1 |
| r. Challenge. | 5 | 4 | 3 | 2 | 1 |

6. When did you begin your course work at Iowa State?

____ Month ____ Year

7. What was your approximate rank in your high school graduating class?
(check one)

____ in upper 10%
 ____ in upper 11-25%
 ____ in upper 26-50%
 ____ in upper 51-75%
 ____ in lower 25%

8. Did you transfer to Iowa State from another college or university?
(check one)

____ Yes ---> Go to Question 9
 ____ No ---> Go to Question 11

9. (Transfers only) How many semester hours did you transfer to Iowa State?

____ Semester hours (Semester hours = quarter hours x 2/3)

10. (Transfers only) What was your approximate G.P.A. at the time of transfer? (check one)

____ below 2.00
 ____ 2.01 - 2.50
 ____ 2.51 - 3.00
 ____ 3.01 - 3.50
 ____ above 3.50

11. What was your approximate G.P.A. (earned at Iowa State) at the beginning of this semester? _____

12. Have you worked in a full-time (40 hours per week) job? (check one)

____ Never ---> skip to 14
 ____ Occasionally ---> (including summers and vacations)
 ____ Continuously from 1 - 3 years
 ____ Continuously for more than 3 years

13. Please describe the occupation in which you worked the majority of the time. (Please be specific)
-

14. Please check any of the following activities in which you have been involved as a participant.

☐ 4-H
☐ Scouts
☐ Varsity Sports
☐ Intramural Sports
☐ Religious Youth Activities
☐ Youth Camps
☐ Foreign Travel
☐ School Music Activities
☐ FFA or FHA
☐ Speech/Debate
☐ Student Council
☐ Cheerleading
☐ School Newspaper/Yearbook
☐ Honor Society
☐ Service Clubs ---> Please Specify _____
☐ Interest Clubs ---> Please Specify _____
☐ Other ---> Please Specify _____

15. Please check any of the following activities in which you have been involved as a leader, counselor, coach or aide.

☐ 4-H
☐ Scouts
☐ Varsity Sports
☐ Intramural Sports
☐ Religious Youth Activities
☐ Youth Camps
☐ Foreign Travel
☐ Youth Choir or Band
☐ Nursery School
☐ Elementary School
☐ Secondary School
☐ Student Government
☐ Other ---> Please specify _____

16. What is your age? _____

17. Sex? (Circle) M F

18. What is your Social Security Number? _____

19. What was your father's occupation most of the time while you were living at home? (Please be specific)
-

20. What was your mother's occupation most of the time while you were living at home? (Please be specific)

21. Are you currently a resident in Iowa? (Please check)

_____ Yes

_____ No

If "No", what is your state or country of residence? _____

22. What was the approximate number of students in your high school?

_____ Students

23. What is your current marital status? (check one)

_____ Single

_____ Married

_____ Married, one or more children

_____ Other (Widowed, Separated, Divorced)

Now, we would like to ask you questions about your current attitudes toward teaching.

24. Please think about the best teacher you have known. What were the characteristics that made that teacher outstanding?

(1) _____

(2) _____

(3) _____

25. List the two most significant factors attracting you to the teaching profession.

(1) _____

(2) _____

APPENDIX B - WRITING SAMPLE TOPICS

EDUCATION 204 WRITING SAMPLE TOPICS

1. Has the American public school system changed substantially in the past 100 years?
2. To what extent do citizens control their local public schools?
3. Is the way we pay for public schools fair?
4. What are schools for?
5. What should be the school curriculum?
6. To what extent can the school meet the individual needs of students, considering society's expectations that schools also socialize pupils?
7. What is equal educational opportunity? Is America providing equal educational opportunity for all students?
8. To what extent can America permit optional forms of instruction?

APPENDIX C - WRITING ANALYSIS SCORING CHART

NAME: _____

100 SEMESTER: _____

SECTION: _____

		MATERIAL	ORGAN- IZATION	EXPRESSION	MECHANICS
EXCELLENT	4pts.				
GOOD	3pts.				
FAIR	2pts.				
POOR	1pt.				
UNACCEPTABLE	0pts.				

Social Security # _____

ACT Composite Score _____

ACT English Score _____

ENGLISH 104 Grade _____

ENGLISH 105 Grade _____

Reader's Journal Evaluation _____

204 Journal Evaluation _____

204 Final Grade _____